

AIS

(Aquatic Invasive Species)

In

The Briggs Chain of Lakes

2 Kinds



**Curlyleaf Pondweed
(CLP)**

**In Rush, Briggs & Julia
since 1980's**

CLP on the North end of Rush

(2002)



**Eurasian Water Milfoil
(EWM)
In Rush
since 2014**

EWM in Lake Minnetonka

Neither AIS Can Be Eradicated

Both Can Be Controlled

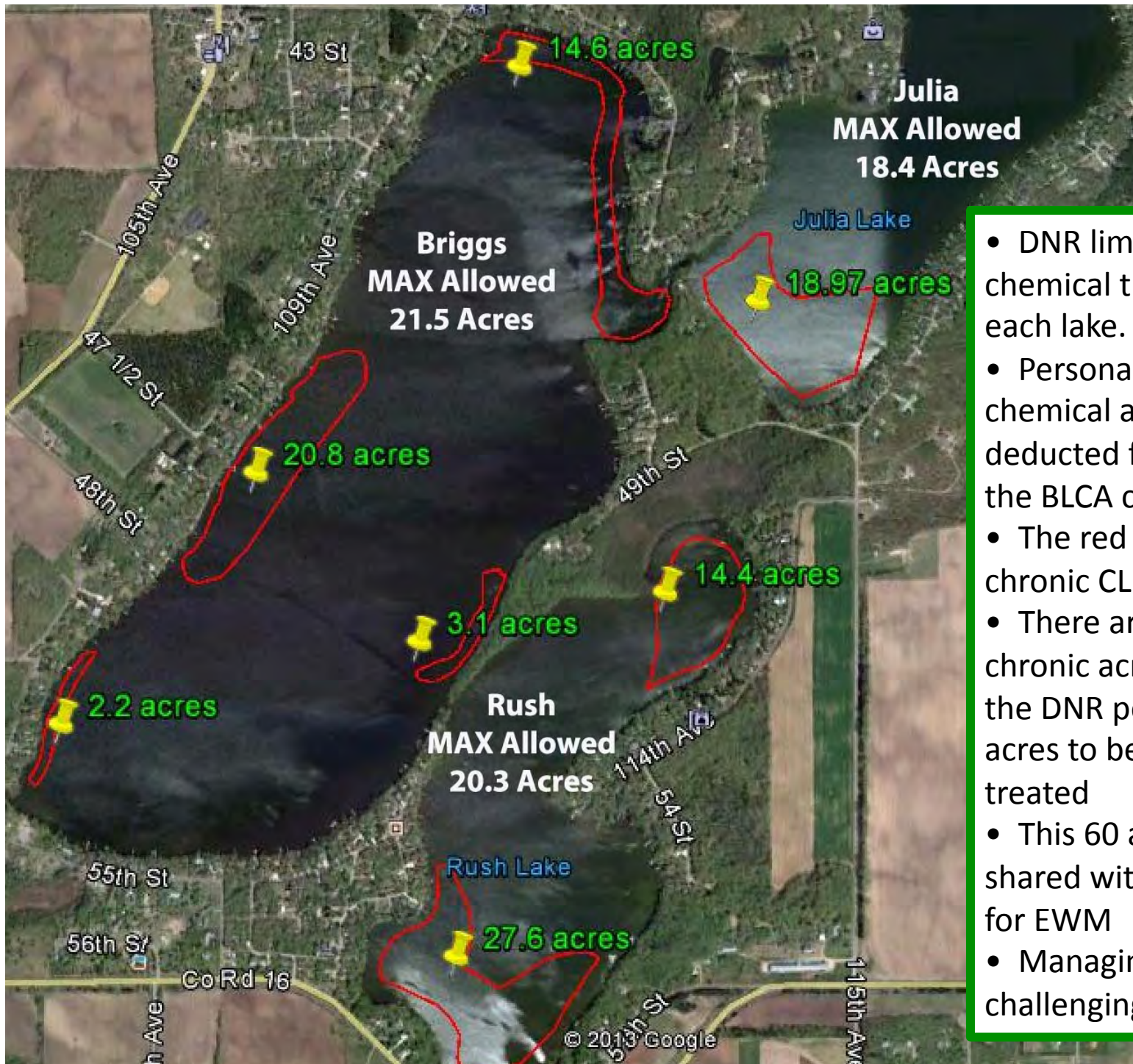
**Highest priority is to keep EWM
confined in Rush and away from
the other lakes**

CLP Details

- Plant matures makes turions (reproductive pods) early June.
- Early July CLP dies and drops the reproductive turions
- The turions sink to the lake bottom and start growing or can wait up to seven years to sprout.
- New plants continue growing under the ice and depending on ice thickness and snow cover can be sizeable when the ice melts
- CLP grows quickly in the clear bright water after ice out.
- It needs to be treated while it is growing rapidly, the water temp is above 50°, rising, yet under 60°. This is usually before June 1st & before turions have developed.
- Very few native plants have emerged when the treatment takes place and nearly all are unaffected by the chemical used.
- Only Briggs, Rush & Julia have enough CLP to treat.

EWM Details

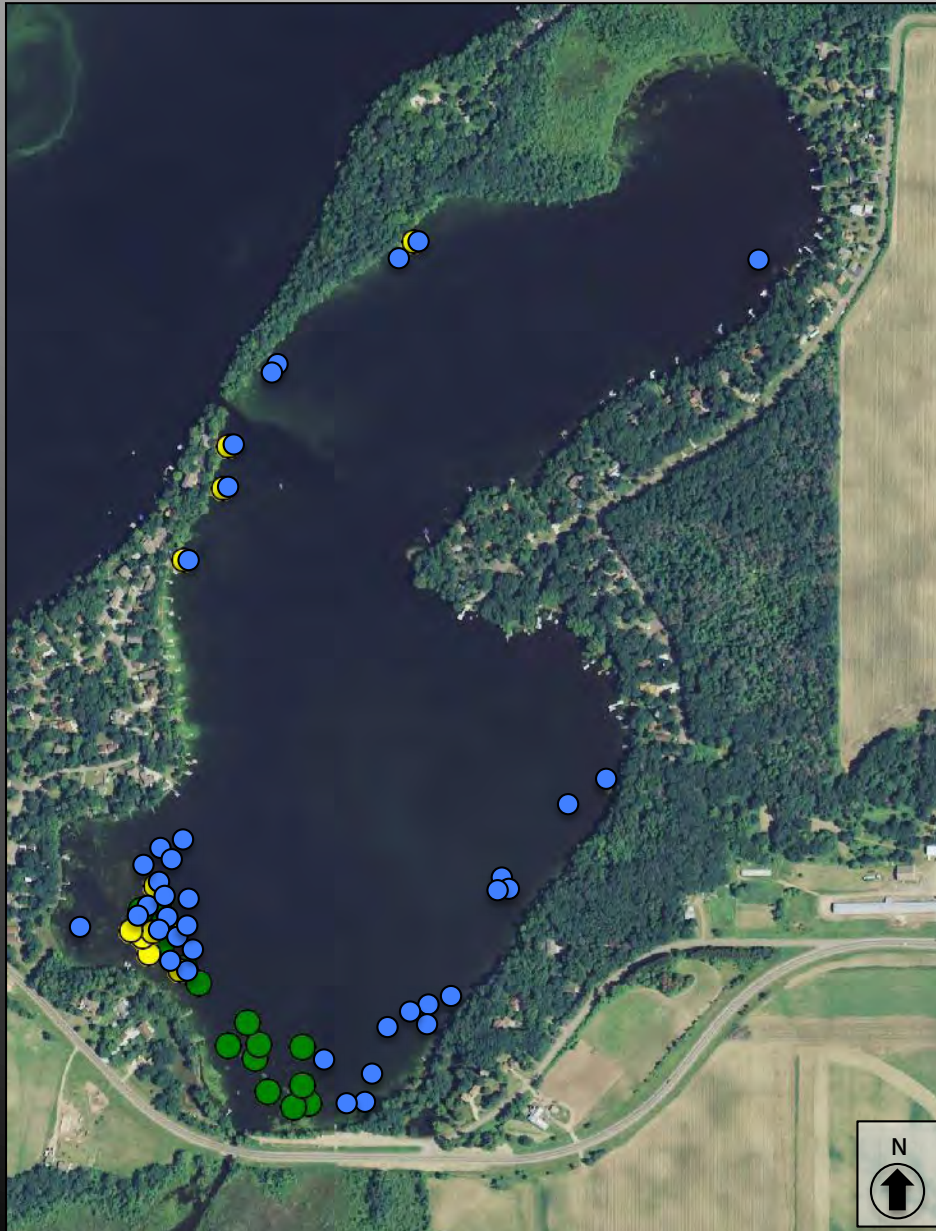
- EWM is a broadleaf perennial.
- Plant dies back to root ball and sprouts early spring. (CLP & EWM get the jump on native plants.)
- Reproduces via seeds, runners, auto fragmentation and plant fragments. Main spread is fragments.
- Auto Fragmentation: EWM sprouts mini plants including roots along the stalk in mid-summer. These sprouts are sloughed and can root and grow spreading the infestation.
- The older the plant, the bigger the root ball
- Forms mats that shade out light and increase sedimentation as dense enough to hold it. Stems are very tough so swimmers can drown in the mats and boat propellers stopped.
- It needs to be treated while it is growing rapidly, preferably before auto fragmentation (mid July). There is also a fall growth spurt.
- Treatment chemical, 2-4D, affects broadleaves but most natives are not of this variety.
- Only found in Rush but it threatens the other three so imperative to keep it controlled in Rush.



- DNR limits the acres of chemical treatment on each lake.
- Personal onshore chemical applications are deducted from the acres the BLCA can treat.
- The red acres are chronic CLP areas.
- There are over 100 chronic acres of CLP & the DNR permits only 60 acres to be chemically treated
- This 60 acres must be shared with acres treated for EWM
- Managing AIS is very challenging.

Rush Lake

Changes in EWM Distribution: 2014-2016



Eurasian Watermilfoil

- 2016 EWM location
- 2015 EWM location
- 2014 EWM location

Surveyed: Aug 2014, Sep 2015, Jul 2016

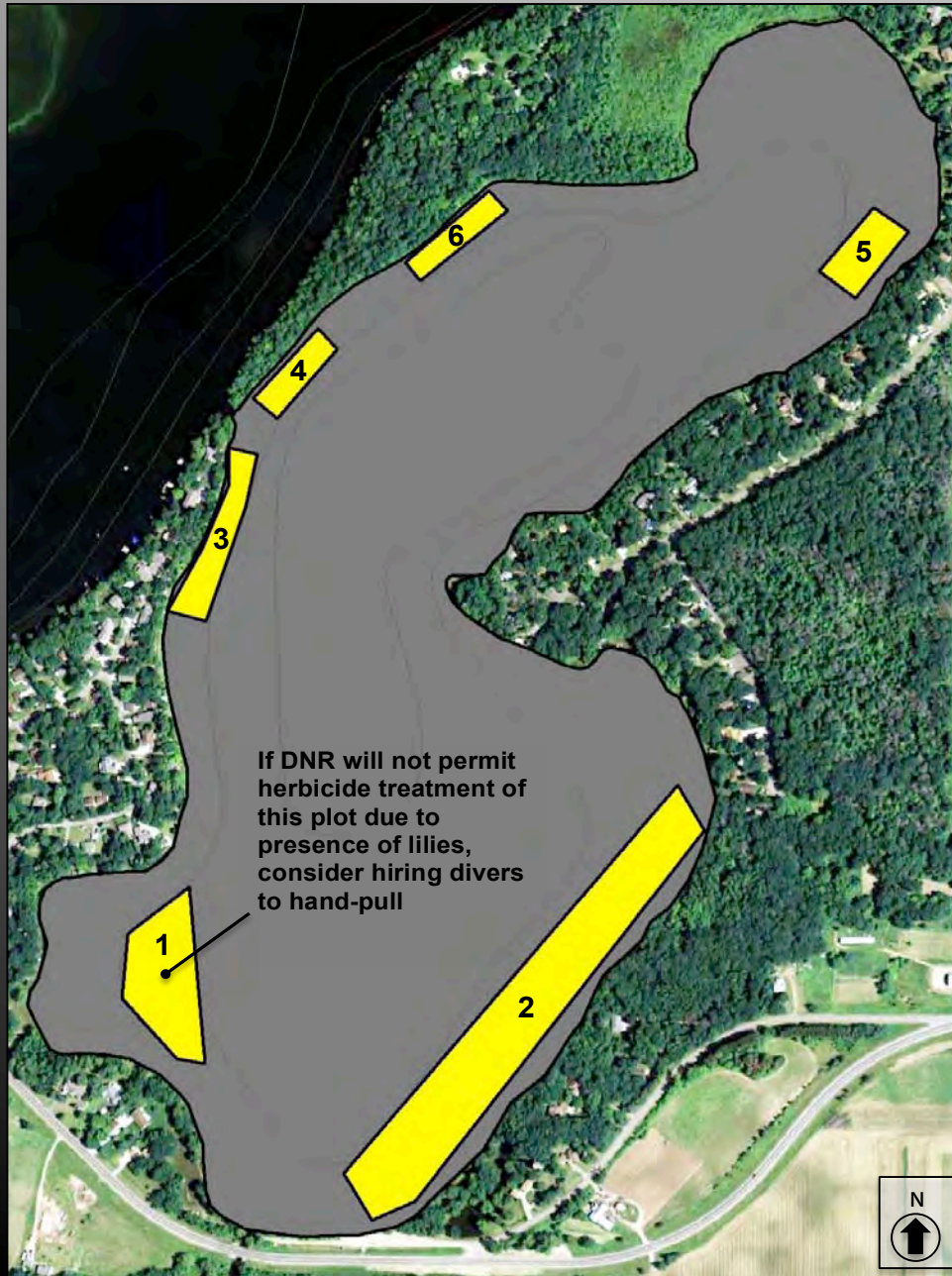
Surveyor: JA Johnson


Affiliation: Freshwater Scientific Services

Methods: Visual, Sonar, Rake

- EWM is spreading in Rush.
 - 2014 — 5.2 acres
 - 2015 — 12 acres
 - 2016 — 17.5 acres
- It is getting closer to the Briggs Channel & spreading into the other lakes
- Herbicides cannot be applied near water lilies
- Due to CLP treatment and water lilies only 4.8 of the 17.5 acres of 2016 EWM can be treated.

Rush Lake
2016 Eurasian Watermilfoil Search & Delineation Survey



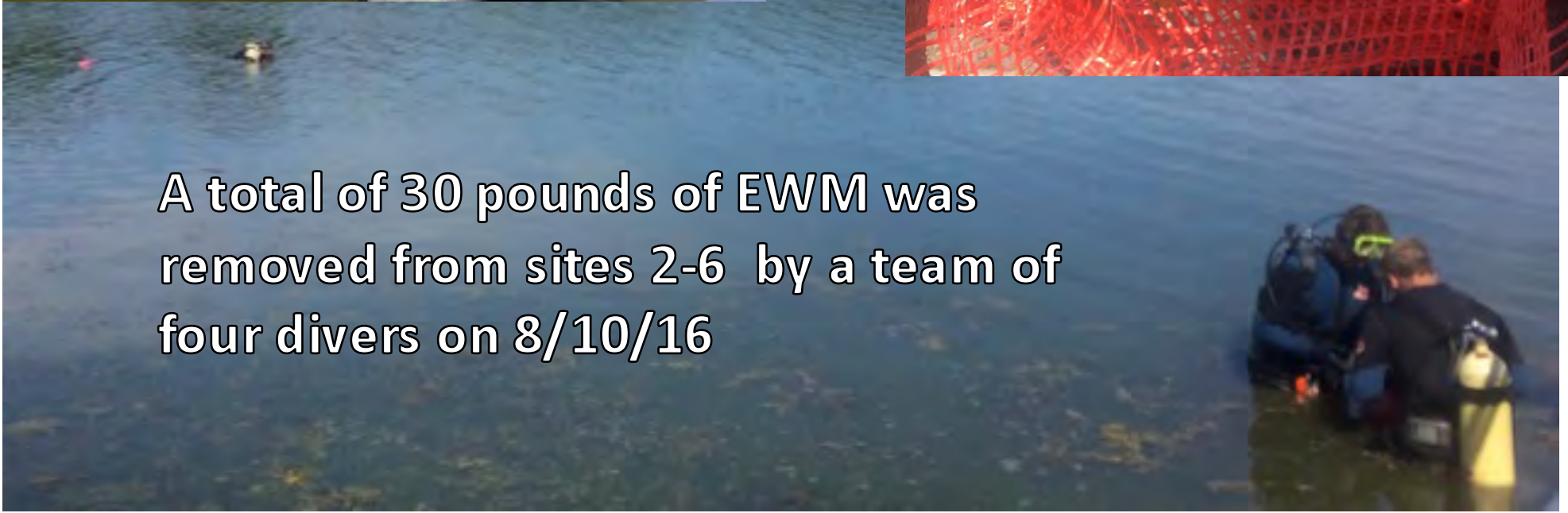
 Potential Treatment Plots

Plot *	Area (acres)	Mean Depth (ft)
1	3.0	4.1
2	9.9	3.4
3	1.6	3.0
4	0.9	3.3
5	1.2	4.4
6	0.9	2.1

Total 17.5

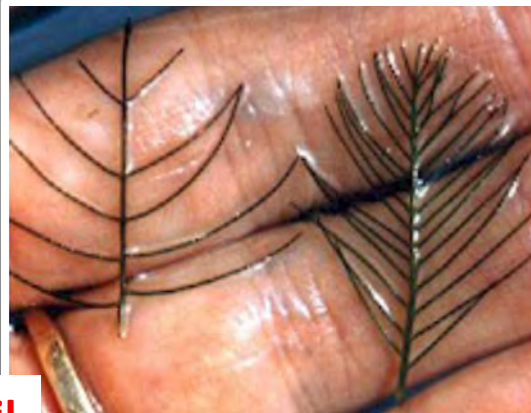
* Plots are numbered in the recommended order of priority for management (1=highest) based upon plot size, EWM density, and potential for impairment and spread to other lakes in the chain.

- Sites 2-6 were hand pulled by a contractor 8/10/16
- 4.8 acres of Sites 1 & 5 will be chemically treated late this summer
- additional hand pulling might also be a possibility during September



A total of 30 pounds of EWM was removed from sites 2-6 by a team of four divers on 8/10/16

- Learn to identify EWM!
- It closely resembles native milfoil.
- The most reliable difference is the number of leaflets. EWM has 12 or more.
- EWM also has a reddish tinge to the mature stalk (noticeable below)
- EWM also tends to flop together out of the water.
(Note the native milfoil appears fuller.)



Native Milfoil

**Eurasian
Watermilfoil
(EWM)**





- Early detection & a rapid response are key to controlling spread of AIS
- Hand pullers found and removed EWM behind the motors of pontoons in this area. The lake bed was sandy and except for EWM weed free. It was easy to detect.
- If all boat owners learned to identify EWM and routinely checked the lake bed area near their boat motors the AIS could be removed before it got established and spreads.



2016 the 3 Lake Improvement District was formed

(reliable AIS control financing secured)

Proceeds approved at the annual LID meeting are not available to pay for AIS expenses until the following year. Tax assessments are made 1st half in May and 2nd half in October. The proceeds are available to the LID 1st half in July and the 2nd half in December.

Until the LID has a sufficient reserve the BLCA will need to help to maintain AIS control 2017 the LID will get the 1st assessment of \$16,000 in July. The CLP survey and treatment takes place in May.

2017 the LID will get the 2nd assessment of \$16,000 in December. The EWM survey, chemical treatment and hand pulling will take place June-September.

Eventually the LID should have enough reserve and experience maintain sufficient cash flow.



2016 the 3 Lake Improvement District (reliable AIS control financing secured)

Continued

Donations to the BLCA for AIS will still be needed to fund the gap in funding for projects to make certain treatments are done when they are effective and new AIS are confronted and controlled.

The Healthy Lakes Committee will be working closely with the LID Directors to ensure AIS is controlled.

EWM plant density needs control to prevent exponential spread of infestation. If EWM is not kept in check in Rush there will be so many plants growing there it will be impossible to keep it out of Briggs & Julia. As long as there aren't too many plants in Rush the ones missed in treatment won't be so numerous that their numbers explode before the next treatment cycle. Control of numbers and their location in Rush are critical containing it in Rush.



2016 the 3 Lake Improvement District (reliable AIS control financing secured)

Continued

The LID is a ***local unit of government (LUG)*** and therefore eligible for Federal grants, plus all the other grants the BLCA has depended on. Thus, the LID should generate additional resources to help our lakes.

As a LUG, the LID will also be able to generate the means to take advantage of variances from the DNR to chemically treat more acres than the BLCA can. (A prerequisite is a lake vegetation management plan that the LID is currently producing.) This flexibility will make the treatment of CLP and EWM in the same lake more manageable and effective.

Hand Pulling EWM

Hand pulling is a great resource to control AIS in areas DNR won't permit to treat chemically

- Can hand pull in water lily areas
- Currently hire professionals to do this
- Expensive

One BLCA volunteer has undergone training to hand pull

Our lakes present problems to be successful at hand pulling

1. Turbid water - hard to see what you are doing
2. Silty bottoms – entire, intact root ball hard to find and collect due to stirred up mud; hard to identify plants in murky, turbid water.
3. Dense native plants are often mixed with the AIS
4. Residents should be trained to recognize & hand pull EWM so they can inspect for and remove EWM near their docks by the boat motor (the key to early detection and rapid response)